



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,721	10/04/2001	Otto Lenherr	4780-19	3049

2352 7590 12/17/2004

OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

STAICOVICI, STEFAN

ART UNIT PAPER NUMBER

1732

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/971,721

Applicant(s)

LENHERR, OTTO

Examiner

Stefan Staicovici

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 26-86 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-86 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed September 13, 2004 has been entered. Claims 1-25 and 87-89 have been canceled. Claims 26 and 67 have been amended. No new claims have been added. Claims 26-86 are pending in the instant application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 67 and 69-84 are rejected under 35 U.S.C. 102(b) as being anticipated by Vandas (US Patent No. 4,246,884).

Regarding claim 67, Vandas ('884) teaches forming a wax article by compression molding (plastic deformation) a core mass of wax particles such that all air is eliminated between said particles (see col. 7, lines 2-10 and 20-30). Further, it is noted that the limitation of a "resin transfer molding process" is a pure functional limitation and does not carry patentable weight. Furthermore, it is noted that in a claim drawn to a process of making, recitation of the intended use of the claimed wax core must result in a structural difference between the claimed process and the prior art in order to patentably distinguish the claimed invention from the prior art.

In regard to claims 69-71 and 75-81, Vandas ('884) teaches compression molding (press-molding) at a temperature less than 215 °F (115 °C), which is the melting temperature of the wax material.

Specifically regarding claims 72-74, Vandas ('884) teaches a synthetic wax (see col. 6, lines 34-35).

Regarding claims 82-84, Vandas ('884) teaches a two-part compression mold in which the top and bottom molds are brought together to mold said wax core (see Figures 5-6).

4. Claims 67-74 and 82-85 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-016817.

Regarding claims 67-68, JP 61-016817 teaches forming a wax article by compression molding (plastic deformation) a core wax preform (15). Further, it is noted that the limitation of a "resin transfer molding process" is a pure functional limitation and does not carry patentable weight. Furthermore, it is noted that in a claim drawn to a process of making, recitation of the intended use of the claimed wax core must result in a structural difference between the claimed process and the prior art in order to patentably distinguish the claimed invention from the prior art.

In regard to claims 69-71, JP 61-016817 teaches compression molding (press-molding) at a temperature of 40-80% of the melting point of the wax, which is 63 °C.

Specifically regarding claims 72-74, JP 61-016817 teaches a paraffin wax.

Regarding claims 82-85, JP 61-016817 teaches a two-part compression mold in which the top and bottom molds are brought together to mold said wax core (see Figures) from a preform.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 26, 32-45, 63-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of Vandas (US Patent No. 4,246,884).

Johnson ('251) teaches the basic claimed process of molding a hollow fiber composite structure having a hollow undercut including, wrapping a wax core with fiber material to form a wrapped assembly, placing said wrapped assembly into a mold cavity, injecting a resin into said mold cavity to impregnate said fiber material, curing (hardening) said resin to form a hardened structure and melting out said wax core to form said hollow fiber composite structure (see col. 6, lines 34-62 and, col. 8, lines 17-24 and 43-47).

Regarding claim 26, although Johnson ('251) teaches forming a wax core having a desired configuration, Johnson ('251) does not teach forming said wax core by plastic deformation. Vandas ('884) teaches forming a wax article by compression molding (plastic deformation) a core mass (see col. 7, lines 2-10 and 20-30). Therefore, it would have been obvious for one of ordinary skill in the art to have used compression molding (plastic deformation) as taught by Vandas ('884) to form the wax core in the process of Johnson ('251) because, Vandas ('884) teaches that compression molding provides for an improved product by

releasing all air bubbles (see col. 7, lines 20-30) and also because, Johnson ('251) teaches forming a wax core having a desired configuration.

In regard to claims 32-34 and 38-44, Vandas ('884) teach compression molding (press-molding) at a temperature less than 215 °F (115 °C), which is the melting temperature of the wax material. Therefore, it would have been obvious for one of ordinary skill in the art to have used compression molding at a temperature less than the melting temperature of 215 °F (plastic deformation) of the wax material as taught by Vandas ('884) to form the wax core in the process of Johnson ('251) because, Vandas ('884) teaches that compression molding provides for an improved product by releasing all air bubbles (see col. 7, lines 20-30) and also because, Johnson ('251) teaches forming a wax core having a desired configuration.

Specifically regarding claims 35-37, Johnson ('251) teaches wax, whereas Vandas ('884) teaches a synthetic wax (see col. 6, lines 34-35).

Regarding claims 45-47, Vandas ('884) teaches a two-part compression mold in which the top and bottom molds are brought together to mold said wax core (see Figures 5-6). Therefore, it would have been obvious for one of ordinary skill in the art to have used a two-part compression mold for compression molding at a temperature less than the melting temperature of 215 °F (plastic deformation) of the wax material as taught by Vandas ('884) to form the wax core in the process of Johnson ('251) because, Vandas ('884) teaches that compression molding provides for an improved product by releasing all air bubbles (see col. 7, lines 20-30) and also because, Johnson ('251) teaches forming a wax core having a desired configuration.

In regard to claims 63-66, Johnson ('251) teaches glass fibers and epoxy resin (col. 8, lines 64-67 and col. 9, lines 13-18). It is submitted that an epoxy resin cures at about 80°C and is injected at about 60°C in order to avoid premature curing. Further, Vandas ('884) teach a melting temperature of about 115°C, hence requiring such a heating temperature to remove the core from the molded product obtained by the process of Johnson ('251) in view of Vandas ('884).

Specifically regarding claims 51-54, Johnson ('251) teaches melting of the wax material from the resulting fiber reinforced composite (see col. 8, line 15-25). Vandas ('884) teaches that the melting temperature of the wax is in a range of 185-240 °F. Therefore, it is submitted that the heating temperature of the wax core during the resin injection step must within the melting range of the wax core and as such must be within the range of 185-240 °F. Further, it is submitted that the actual temperature is a result-effective variable because, if the heating temperature of the wax core during the resin injection step is too high then the wax core will melt prior to curing of the resin and if it's too low then curing will not occur, hence resulting in a defective product. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill in the art to have used routine experimentation to determine an optimum heating temperature in the process of Johnson ('251) in view of Vandas ('884) because, Johnson ('251) teaches melting of the wax material from the resulting fiber reinforced composite, hence teaching that if the heating temperature of the wax core during the resin injection step is too high then the wax core will melt prior to curing of the resin and if it's too low then curing will not occur, as such teaching that the heating temperature is a result-effective variable.

7. Claims 26-31 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of JP 61-016817.

Johnson ('251) teaches the basic claimed process of molding a hollow fiber composite structure having a hollow undercut including, wrapping a wax core with fiber material to form a wrapped assembly, placing said wrapped assembly into a mold cavity, injecting a resin into said mold cavity to impregnate said fiber material, curing (hardening) said resin to form a hardened structure and melting out said wax core to form said hollow fiber composite structure (see col. 6, lines 34-62 and, col. 8, lines 17-24 and 43-47).

Regarding claims 26-31, although Johnson ('251) teaches forming a wax core having a desired configuration, Johnson ('251) does not teach forming said wax core by plastic deformation of a wax preform. JP 61-016817 teaches forming a wax article by compression molding (plastic deformation) of a core wax preform (15). Therefore, it would have been obvious for one of ordinary skill in the art to have used compression molding (plastic deformation) of a wax preform as taught by JP 61-016817 to form the wax core in the process of Johnson ('251) because, JP 61-016817 teaches that compression molding provides for an improved product by avoiding shrinkage and also because, Johnson ('251) teaches forming a wax core having a desired configuration.

In regard to claim 48, JP 61-016817 teaches a two-part compression mold in which the top and bottom molds are brought together to mold said wax core (see Figures) from a preform. Therefore, it would have been obvious for one of ordinary skill in the art to have used a two-part compression mold for compression molding (plastic deformation) of a wax preform as taught by



JP 61-016817 to form the wax core in the process of Johnson ('251) because, JP 61-016817 teaches that compression molding provides for an improved product by avoiding shrinkage and also because, Johnson ('251) teaches forming a wax core having a desired configuration.

8. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of Vandas (US Patent No. 4,246,884) and in further view of JP 07-314477.

Johnson ('251) in view of Vandas ('884) teaches the basic claimed process as described above.

Regarding claim 49, it is submitted that because Vandas ('884) teaches that all air is removed between wax particles as the molds are brought together (see col. 7, lines 22-30), then the molds include openings in order to remove said air. However, Johnson ('251) in view of Vandas ('884) does not teach a resin trap channel to remove excess resin. However, the use of resin trap channels to remove excess resin in a molding process is well known as evidenced by JP 07-314477 which teaches the use of a resin trap channel (4) connected to a pin hole (3) and to mold cavity (2) (see Figure). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a resin trap channel as taught by JP 07-314477 in the process of Johnson ('251) in view of Vandas ('884) because, JP 07-314477 teaches that a resin trap channel avoids the formation of flash, hence improving product aesthetics.

9. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of JP 61-016817 and in further view of Holtzberg (US Patent No. 6,344,160 B1).

Johnson ('251) in view of JP 61-016817 teaches the basic claimed process as described above.

Regarding claim 50, although Johnson ('251) teaches melting of the wax core, Johnson ('251) in view of JP 61-016817 does not teach reusing the molten wax to make another, new preform core. Holtzberg ('160) teaches a lost wax core process including recycling the molten wax to form new cores (see col. 16, lines 59-61). Therefore, it would have been obvious for one of ordinary skill in the art to have recycled the molten wax as taught by Holtzberg ('160) in the process of Johnson ('251) in view of JP 61-016817 due to a variety of known advantages that recycling provides such as reduced costs, reduced waste, etc.

10. Claim 86 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vandas (US Patent No. 4,246,884) in view of JP 07-314477.

Regarding claim 86, it is submitted that because Vandas ('884) teaches that all air is removed between wax particles as the molds are brought together (see col. 7, lines 22-30), then the molds include openings in order to remove said air. However, Vandas ('884) does not teach a resin trap channel to remove excess resin. However, the use of resin trap channels to remove excess resin in a molding process is well known as evidenced by JP 07-314477 which teaches the use of a resin trap channel (4) connected to a pin hole (3) and to mold cavity (2) (see Figure). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a resin trap channel as taught by JP 07-314477 in the process of Vandas ('884) because, JP 07-314477 teaches that a resin trap channel avoids the formation of flash, hence improving product aesthetics.

11. Claims 55-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of Vandas (US Patent No. 4,246,884) and in further view of Jones ('116).

Johnson ('251) in view of Vandas ('884) teaches the basic claimed process as described above.

Regarding claim 55, although Johnson ('251) in view of Vandas ('884) teaches heating a wax core, Johnson ('251) in view of Vandas ('884) do not specifically teach that said wax core expands. Jones ('116) teaches a molding process for making a hollow fiber composite structure including, providing a wax core, wrapping said wax core with resin impregnated fiber to form a wrapped assembly, heating said wrapped assembly such that said core expands and applies pressure onto said fiber and melting said core to form said hollow fiber composite structure (see col. 2, lines 55-61 and col. 3, lines 14-39). It is submitted that expansion occurs by more than 0%. Therefore, it would have been obvious for one of ordinary skill in the art to have allowed the wax core to expand as taught by Jones ('116) in the process of Johnson ('251) in view of Vandas ('884) because, Jones ('116) teaches that such expansion provides a pressure onto the fiber layer that removes excess resin, hence providing for an improved molded article.

Further in regard to claim 55 and in regard to claims 56-59, Johnson ('251) teaches melting of the wax material from the resulting fiber reinforced composite (see col. 8, line 15-25). Further, Jones ('116) teaches heating said wrapped assembly such that said core expands and applies pressure onto said fiber and melting said core to form said hollow fiber composite structure (see col. 2, lines 55-61 and col. 3, lines 14-39). Vandas ('884) teaches that the melting

temperature of the wax is in a range of 185-240 °F. Therefore, it is submitted that the heating temperature of the wax core during the resin injection step must within the melting range of the wax core and as such must be within the range of 185-240°F. Further, it is submitted that the actual temperature is a result-effective variable because, if the heating temperature of the wax core during the resin injection step is too high then the wax core will melt prior to curing of the resin and if it's too low then expansion and curing will not occur, hence resulting in a defective product. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill in the art to have used routine experimentation to determine an optimum heating temperature in the process of Johnson ('251) in view of Vandas ('884) and in further view of Jones ('116) because, Johnson ('251) teaches melting of the wax material from the resulting fiber reinforced composite, hence teaching that if the heating temperature of the wax core during the resin injection step is too high then the wax core will melt prior to curing of the resin and if it's too low then expansion and curing will not occur, and as such teaching that the heating temperature is a result-effective variable.

12. Claims 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,045,251) in view of Vandas (US Patent No. 4,246,884) and in further view of Jones ('116) and Daskivich (US Patent No. 3,811,903).

Johnson ('251) in view of Vandas ('884) and in further view of Jones ('116) teaches the basic claimed process as described above.

Regarding claims 60-62, although Jones ('116) teaches thermal expansion of a wax core material, Johnson ('251) in view of Vandas ('884) and in further view of Jones ('116) do not

teach a specific volumetric expansion. However, it is well known that materials used in a lost core process expand within the range of 1-5% as evidenced by Daskivich ('903) which teaches a specific wax based material used in a lost core molding process having a volumetric expansion of less than 5% when heated from 70-220°F (see col. 3, lines 19-40). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a wax material having a volumetric expansion of less than 5% when heated from 70-220°F as taught by Daskivich ('903) in the process of Johnson ('251) in view of Vandas ('884) and in further view of Jones ('116) because, Daskivich ('903) specifically teaches that wax based material that is used in a lost core molding process has a volumetric expansion of less than 5% when heated from 70-220°F, whereas the process of Johnson ('251) in view of Vandas ('884) and in further view of Jones ('116) requires a wax material that is heated within the range of 185-240°F to function as described and also because of its well known status as evidenced by Daskivich ('903).

### ***Response to Arguments***

13. Applicants' remarks filed September 13, 2004 have been considered.

Applicants argue that the teachings of Vandas ('884) and JP 61-016817 are "not at all related to resin-transfer-Molding (RTM) technology" (see page 15 of the amendment filed September 13, 2004). However, as shown above, the limitation of a "resin transfer molding process" is a functional limitation and does not carry patentable weight. Furthermore, it is noted that in a claim drawn to a process of making, recitation of the intended use of the claimed wax core must result in a structural difference between the claimed process and the prior art in order

to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Furthermore, it is noted that Johnson ('251) teaches using a wax core in a resin transfer molding process.

Applicants argue that "there is no interrelationship between forming a wax core between two mold members of a plate warmer by means of two mold members...and the production of a lost core having communication passages used in the process for producing fiber-reinforced plastic parts" (see page 16 of the amendment filed September 13, 2004). Further, Applicants argue that the combination of Johnson ('251) and JP 61-016817 does "not teach a process for manufacturing a fiber-reinforced plastic part which utilizes an RTM process" (see page 16 of the amendment filed September 13, 2004). In response to applicant's arguments against the references individually, it is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's arguments, that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Johnson ('251) teaches the basic claimed process of molding a hollow fiber

composite structure having a hollow undercut including, wrapping a wax core with fiber material to form a wrapped assembly, placing said wrapped assembly into a mold cavity, injecting a resin into said mold cavity to impregnate said fiber material, curing (hardening) said resin to form a hardened structure and melting out said wax core to form said hollow fiber composite structure (see col. 6, lines 34-62 and, col. 8, lines 17-24 and 43-47). However, Johnson ('251) does not teach making the wax core and as such one ordinarily skilled in the art would look at either Vandas ('884) or JP 61-016817 to make a wax core. Vandas ('884) teaches forming a wax article by compression molding (plastic deformation) a core mass (see col. 7, lines 2-10 and 20-30). JP 61-016817 teaches forming a wax article by compression molding (plastic deformation) of a core wax preform (15). Therefore, it would have been obvious for one of ordinary skill in the art to have used compression molding (plastic deformation) as taught by Vandas ('884) to form the wax core in the process of Johnson ('251) because, Vandas ('884) teaches that compression molding provides for an improved product by releasing all air bubbles (see col. 7, lines 20-30) and also because, Johnson ('251) teaches forming a wax core having a desired configuration. Furthermore, it would have been obvious for one of ordinary skill in the art to have used compression molding (plastic deformation) of a wax preform as taught by JP 61-016817 to form the wax core in the process of Johnson ('251) because, JP 61-016817 teaches that compression molding provides for an improved product by avoiding shrinkage and also because, Johnson ('251) teaches forming a wax core having a desired configuration. It is noted that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was

concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, either Vandas ('884) or JP 61-016817 teach making a wax core, hence solving the problem of making a wax core.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



Primary Examiner

12/13/04

AU 1732

December 13, 2004